

**2004-01-23 DEA
TANAKA SEAWALL**

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**DRAFT ENVIRONMENTAL ASSESSMENT FOR A
SHORELINE SETBACK VARIANCE APPLICATION**

CONSTRUCTION OF A SEAWALL

45-002 Lilipuna Road, Kaneohe, Hawaii

ACCEPTING AUTHORITY:

City and County of Honolulu
Department of Planning and Permitting

PREPARED BY:

Analytical Planning Consultants, Inc.

December 2003

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CONSTRUCTION OF A SEAWALL

PROJECT LOCATION:

45-002 Lilipuna Road, Kaneohe, Hawaii

APPLICANT AND OWNER:

Dr. Sevath Tanaka

ACCEPTING AUTHORITY:

City and County of Honolulu
Department of Planning and Permitting

PREPARED BY:

Analytical Planning Consultants, Inc.
928 Nuuanu Avenue, Suite 502
Honolulu, Hawaii 96817
(808) 536-5695

This document has been prepared
pursuant to Chapter 343 HRS

December 2003

DRAFT ENVIRONMENTAL ASSESSMENT

Construction of a Seawall TMK: 4-5-01: 039, 45-002 Lilipuna Road, Kaneohe, Oahu, Hawaii

Table of Contents

1.	GENERAL INFORMATION.....	2
2.	LOCATION AND GENERAL DESCRIPTION OF THE PROPOSED PROJECT.....	3
2.1	Location	3
2.2	Proposed Project Description.....	6
3.	ENVIRONMENTAL SETTING	10
3.1	General Characteristics	10
3.2	Shoreline Characteristics	10
3.3	Oceanographic Characteristics.....	16
3.4	Marine Flora and Fauna	17
3.5	Water Quality	17
3.6	Coastal Use	18
4.	SUMMARY OF IMPACTS AND MITIGATIVE MEASURES	19
5.	ALTERNATIVES CONSIDERED	20
5.1	No Action.....	20
5.2	Sloping Stone Revetment.....	20
5.3	Sandbags	20
5.4	Vertical Seawall	20
6.	FINDINGS AND REASONS SUPPORTING ANTICIPATED DETERMINATION	21
6.1	Significance Criteria	21
6.2	Findings and Reasons Supporting Anticipated Determination	23
7.	AGENCY AND PUBLIC CONSULTATION AND REVIEW	24
8.	REFERENCES	25

List of Figures

1.	Location Map.....	4
2.	Project Area TMK Map	5
3.	Certified Shoreline Survey August 11, 2003	7
4.	Site Plan and Shoreline Setback	8
5.	Seawall Detail	9
6.	Kaneohe Bay – Project Location	11
7.	Shore and Nearshore Characteristics	13
8.	Project Site Photos	14
9.	Project Site Photos	15
10.	1969 Aerial Photo	16

DRAFT ENVIRONMENTAL ASSESSMENT

Construction of a Seawall TMK: 4-5-01: 039, 45-002 Lilipuna Road, Kaneohe, Oahu, Hawaii

1.0 GENERAL INFORMATION

- A. Applicant:** Dr. Sevath Tanaka
Kailua, Hawaii
- B. Recorded Fee Owner:** Dr. Sevath Tanaka
Kailua, Hawaii
- C. Agent:** Analytical Planning Consultants
928 Nuuanu Avenue, Suite 502
Honolulu, Hawaii 96817
Donald Clegg, President
Phone: 536-5695 Fax: 599-1553
- D. Property Profile:**
- | | |
|----------------------------|---------------------------------------|
| Location: | Kaneohe, Oahu, Hawaii |
| Site Address: | 45-002 Lilipuna Road, Kaneohe, Hawaii |
| TMK: | (1) 4-5-001: 039 |
| Lot Area: | 12,795 square feet |
| State Land Use: | Urban |
| County Development Plan: | Residential |
| Zoning: | R-10 Residential |
| Height Limit: | 25 feet |
| Special District: | No |
| Shoreline Management Area: | Yes |
| Shoreline Setback: | Yes |
| Existing Land Use: | Residential; currently vacant |
- E. Agencies Consulted:**
- City & County of Honolulu, Department of Planning & Permitting
 - State of Hawaii, Department of Land & Natural Resources
 - State of Hawaii, Dept of Health's Office of Environmental Quality Control
- F. Permits Required:**
- Shoreline Setback Variance
 - Building Permit

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Construction of a Seawall TMK: 4-5-01: 039, 45-002 Lilipuna Road, Kaneohe, Oahu, Hawaii

2.0 LOCATION AND GENERAL DESCRIPTION OF THE PROPOSED PROJECT

2.1 Location

Kaneohe Bay is located in the Koolaupoko District of Oahu and is the largest sheltered body of water in the Hawaiian Islands. The bay is framed by Mokapu Peninsula along its eastern edge and by Kualoa Point along the bay's northwestern tip. The shoreline around the bay contains fishponds, City parks, and numerous residential and other forms of development. The land use of the area surrounding the bay ranges from intensive development at Kaneohe Marine Corps Base at Mokapu Peninsula to Kaneohe Town to also include rural areas up to Kualoa Point.

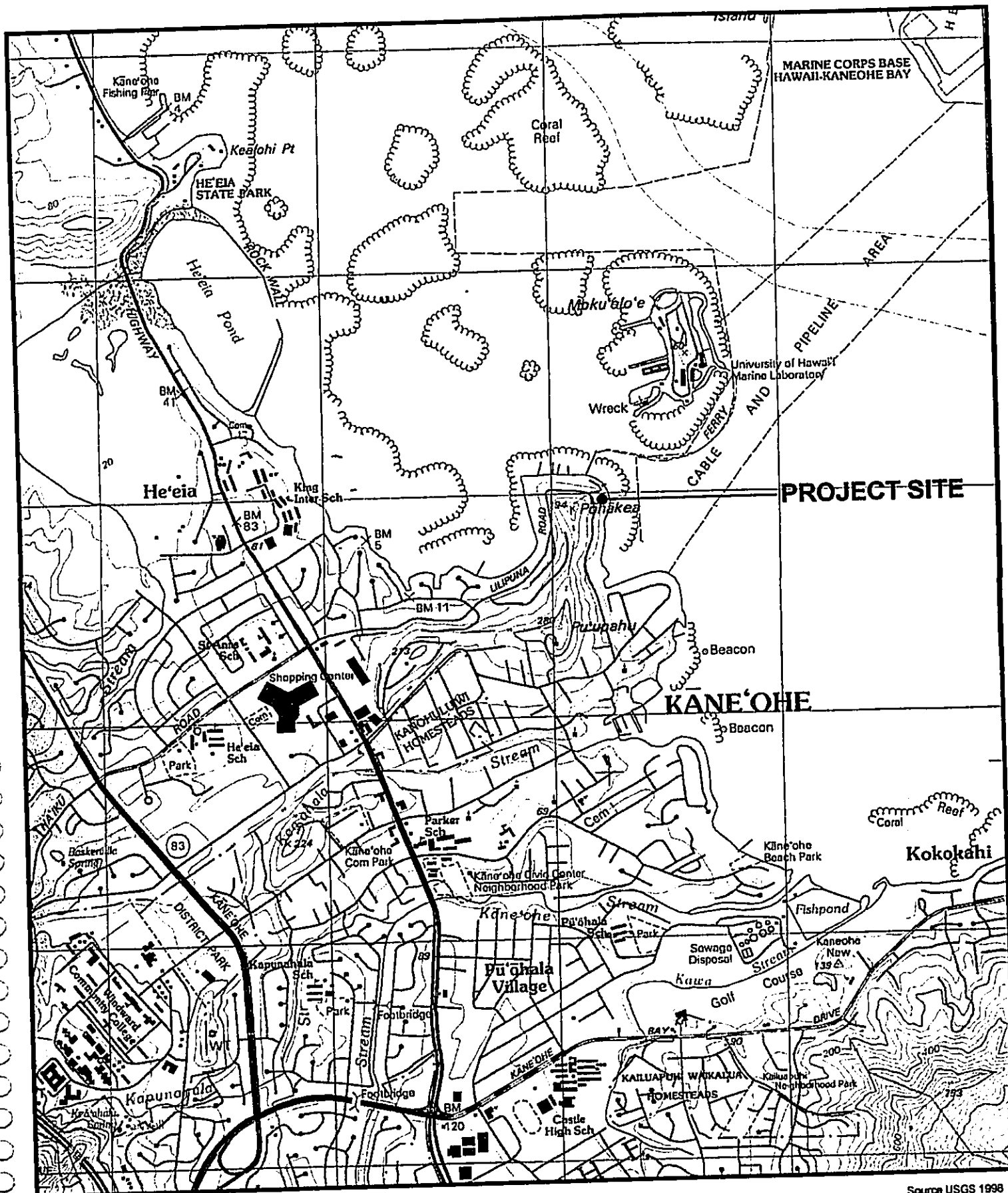
The project site, TMK 4-5-001: 039 at 45-002 Lilipuna Road, Kaneohe, Hawaii, is located in a residential neighborhood along the south lagoon of Kaneohe Bay. The 12,795 square foot project lot, which slopes steeply downward from Lilipuna Road to Kaneohe Bay, is located on a small peninsula, Puu Pohakea. The project site is currently vacant, but was once occupied by a single family house originally constructed in 1937.

The project site's State land use designation is Urban and the City and County of Honolulu's zoning classification is R-10 Residential. Vegetation on the site consists of coconut trees and grass. The site has been disturbed due to the demolition of the original house structure (Building Permit No. 509462, June 2000). The owner-applicant proposes to construct and occupy a new single family home on the project lot. A general location map for the project site is shown in Figure 1 and a tax map is shown in Figure 2.

The University of Hawaii owns three parcels adjacent to the north of the project site (TMK 4-6-01: 15, 16, 17) totaling approximately 1.4 acres along Lilipuna Road, but situated around the corner of the peninsula from the project site. From the University's property, which contains a guard house, parking lot and pier, shuttle boats run on demand during weekday hours to the UH Marine Laboratory located across the bay on Moku o Loe, also known as Coconut Island. Access to the University's property is through a locked electric gate from Lilipuna Road.

The project area is a thoroughly developed residential neighborhood typically with single-family houses along the shore area. The house lots on the makai side of Lilipuna Road are generally long rectangular lots also sloping down from the street towards Kaneohe Bay. A number of the lots have houses constructed as near the shore as legally possible, or perhaps what would be the shoreline setback zone today, and a number of these lots have seawalls.

Adjacent to the project site in the opposite direction from the UH pier, is a vacant residential lot (TMK 4-5-01: 038) and the property just next to that (TMK 4-5-01: 37) has a house very near the bay, a seawall and a pier. A shoreline access easement owned by the City and County of Honolulu (4-5-01: 105) is located four lots to the south of the project site.



Source USGS 1998



NORTH



SCALE IN FEET

Figure 1
LOCATION MAP

45-002 Lili'ua Road, Kaneohe, Oahu, Hawaii

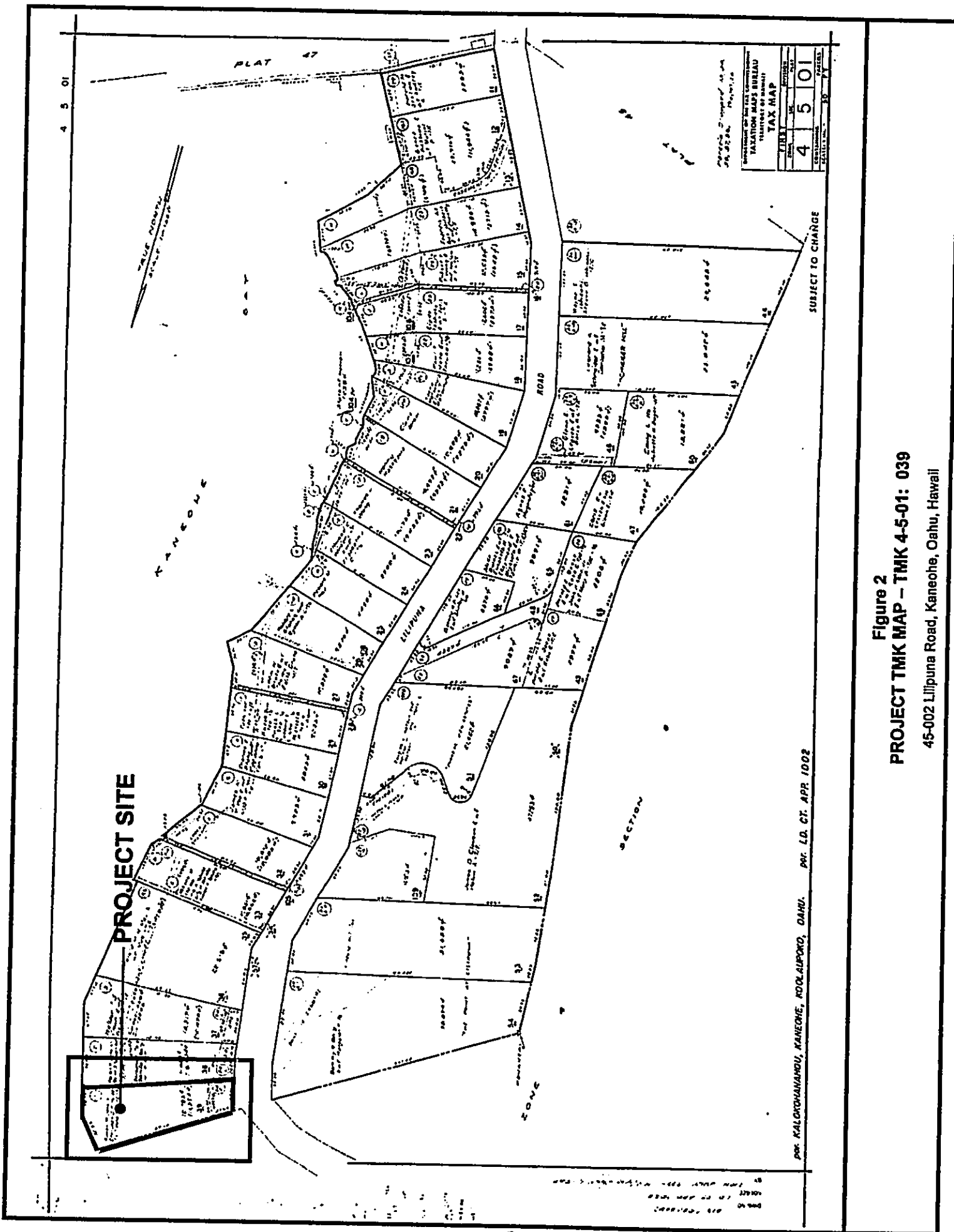


Figure 2
PROJECT TMK MAP - TMK 4-5-01: 039
45-002 Lilipuna Road, Kaneohe, Oahu, Hawaii

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Construction of a Seawall TMK: 4-5-01: 039, 45-002 Lilipuna Road, Kaneohe, Oahu, Hawaii

2.2 Proposed Project Description

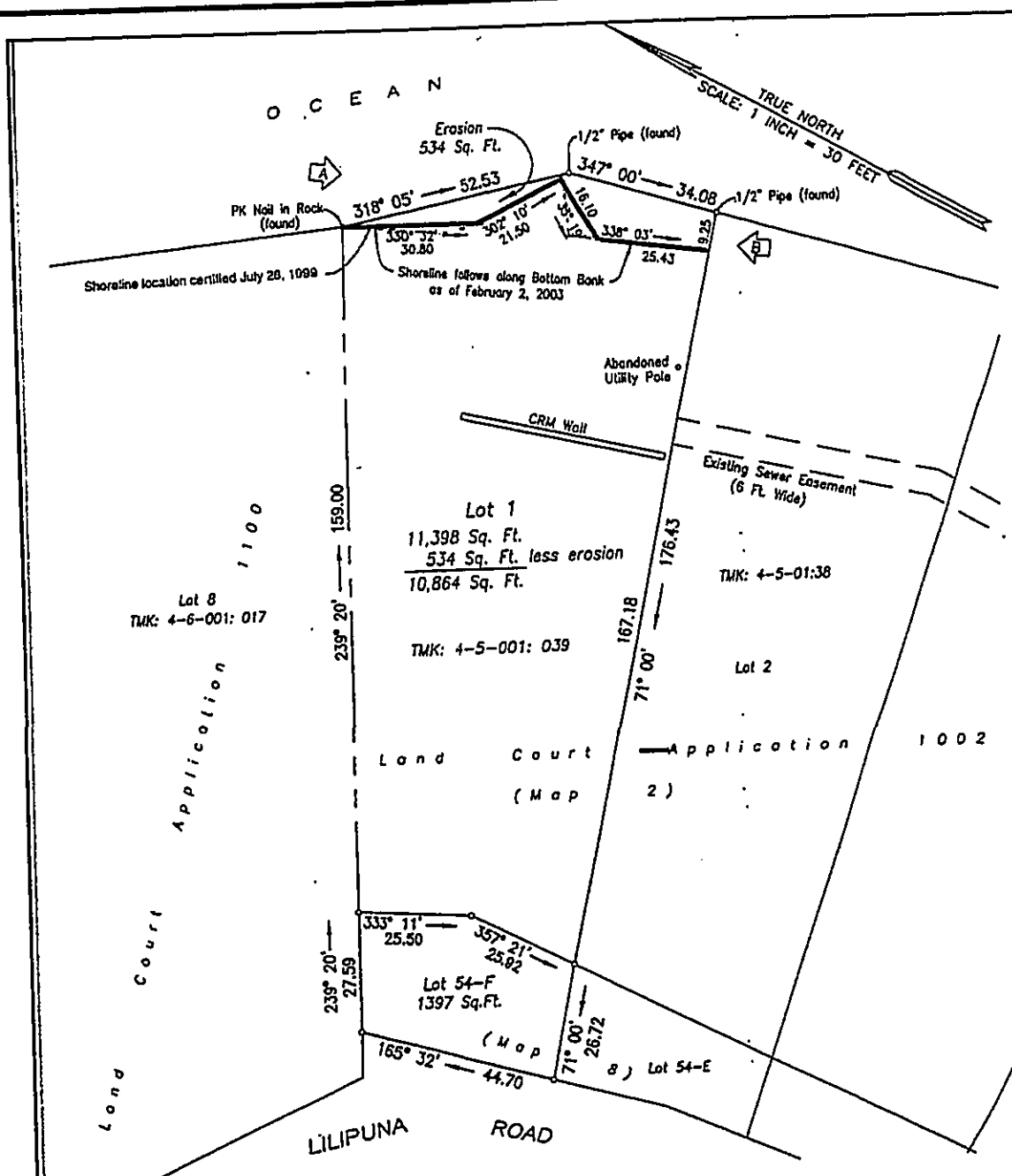
A shoreline survey for the project site was completed on February 2, 2003 and the shoreline survey was certified by the Chairman, Board of Land and Natural Resources, on August 11, 2003. A copy of the certified shoreline is shown on Figure 3. Approximately 534 square feet of the total property area of 12,795 square feet has eroded and is now located seaward of the certified shoreline.

The applicant proposes to construct an owner-occupancy residence on the property and wants to construct a protective retaining wall landward of the certified shoreline, within the 40-foot shoreline setback zone. The property is relatively steeply sloped from Lilipuna Road where the elevation is +78 MSL down to the property's shoreline along Kaneohe Bay at +6 MSL. The seawall will protect the property and stop further erosion, as well as allow for the placement of earth fill behind the seawall so that the area can be landscaped and stabilized.

The property is approximately 80 feet wide along the shore. The slope at the shoreline is almost a straight vertical drop from +6 MSL to the water. A large triangular shaped rock outcrop is located in about the middle of the shore frontage. The proposed seawall would be constructed landward of the certified shoreline and the rock outcrop. No portion of the seawall will be constructed seaward of the certified shoreline.

The seawall will be of concrete rubble masonry (CRM) construction that will use large rocks grouted in place. The seawall is designed in an upsidedown "J" configuration parallel to the shore. The seaward face of the wall be constructed landward of the certified shoreline at approximately +6 MSL, following along the shoreline except where it will remain more landward of the large rock outcrop. At the north property boundary, the seawall continues upward and landward for approximately 30 feet and then at +22 MSL rounds back towards the middle of the property for a distance of approximately 54 feet. A reduced site plan is shown in Figure 4.

The wall, built on a 2-inch grout bed, will be approximately 5-feet 6-inches wide at the base tapering to 1-foot 4-inches wide at the top. The base of the wall will be buried 1-foot 8-inches below grade. The seaward face of the wall will be a maximum of 8-feet high. Earth fill will be placed behind (landward of) the wall with pea gravel at the two 4-inch drain pipes built into the wall. The area behind the seawall will be landscaped with yard grass and plant materials. A cross section of the seawall is shown in Figure 5.



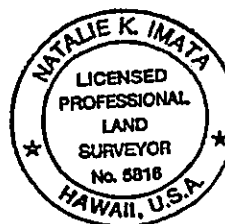
A indicates photo and direction
Owner: Sevalth S. Tanaka Trust
Property Address: 45-002 Lilipuna Road

The shoreline as located and certified and delineated in red is hereby confirmed as being the actual shoreline as of AUG 11 2003

Chairman, Board of Land and Natural Resources

SHORELINE CERTIFICATION

Lot 1 & Lot 54-F as shown on Map 2 and 8
of Land Court Application 1002
At Kaneohe, Koolau, Oahu, Hawaii
TMK: 1st Div. 4-5-001: 039



THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION.

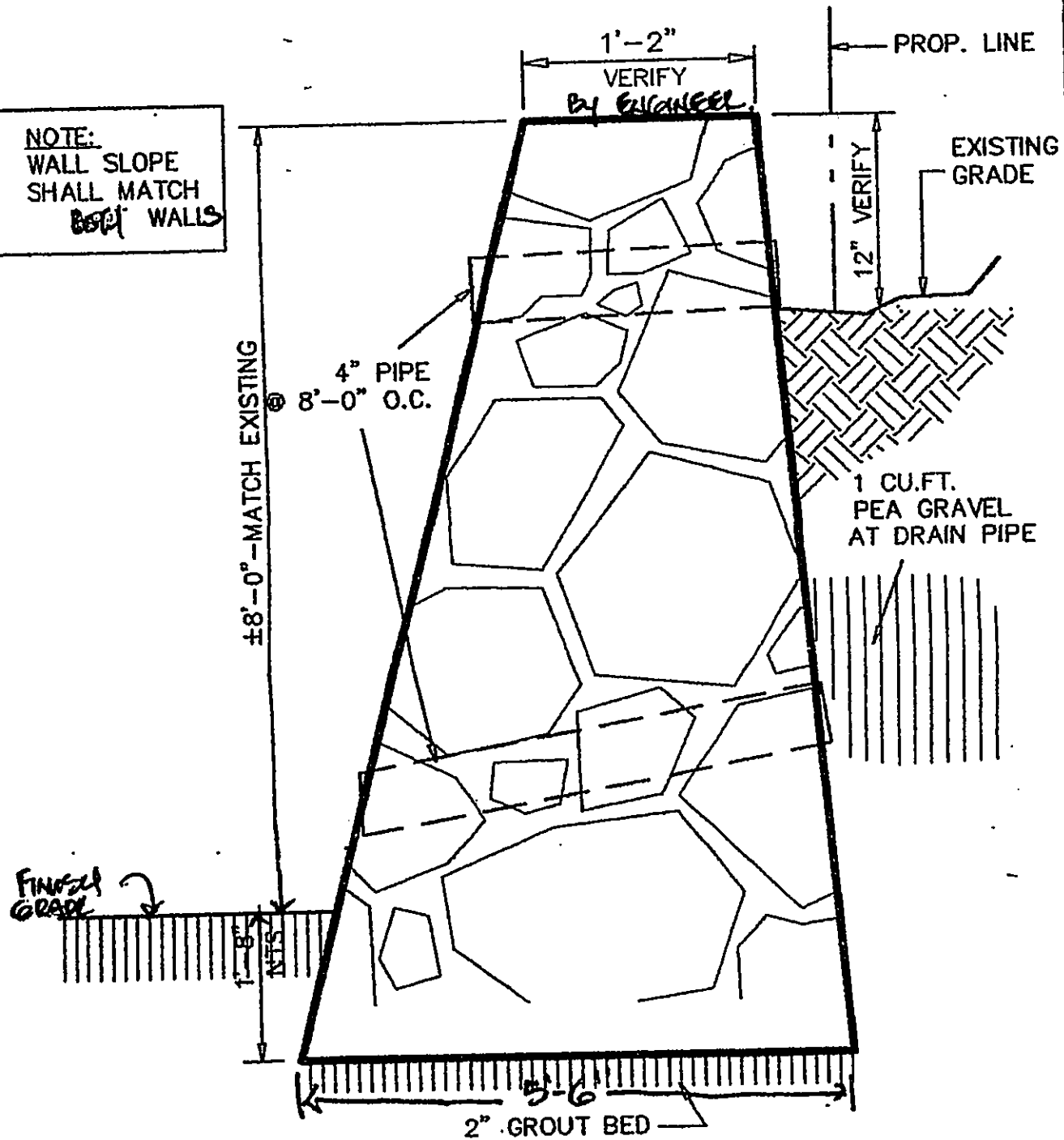
Source: Natalie K. Imata Licensed Professional Land Surveyor

Figure 3
SHORELINE SURVEY - CONFIRMED AUGUST 11, 2003

Not To Scale
See Full Size Plans

45-002 Lilipuna Road, Kaneohe, Oahu, Hawaii

NOTE:
WALL SLOPE
SHALL MATCH
BOTH WALLS



B
A-1

CRM WALL DETAIL (RETAINING TYPE)

SCALE $\frac{1}{2}" = 1'-0"$

Source: Roscoe O. Ford Licensed Professional Engineer

Figure 5
SEA WALL DETAIL

Not To Scale
See Full Size Plans

45-002 Lilipuna Road, Kaneohe, Oahu, Hawaii

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Construction of a Seawall TMK: 4-5-01: 039, 45-002 Lilipuna Road, Kaneohe, Oahu, Hawaii

3. ENVIRONMENTAL SETTING

3.1 General Description

The Kaneohe Bay area was formed as part of the Kailua, Koolau and Honolulu volcanic series. Only three of the volcanic ridges that separate streams flowing into Kaneohe Bay are present today. One of the ridges is Puu Pohakea which projects into Kaneohe Bay between Kaneohe and Heeia. The ridge continues offshore as the basalt core of Moku o Loe (Coconut Island). The project site is located along the shore of Puu Pohakea.

A combination of soil formation, weathering and erosion created valleys and deposited alluvial material on the windward coast. The drainage area of Kaneohe Bay is covered by young and old alluvium from the mountain cliffs. Concurrently, the shorelines were formed through ocean wave erosion, coral reef building, and marine deposits.

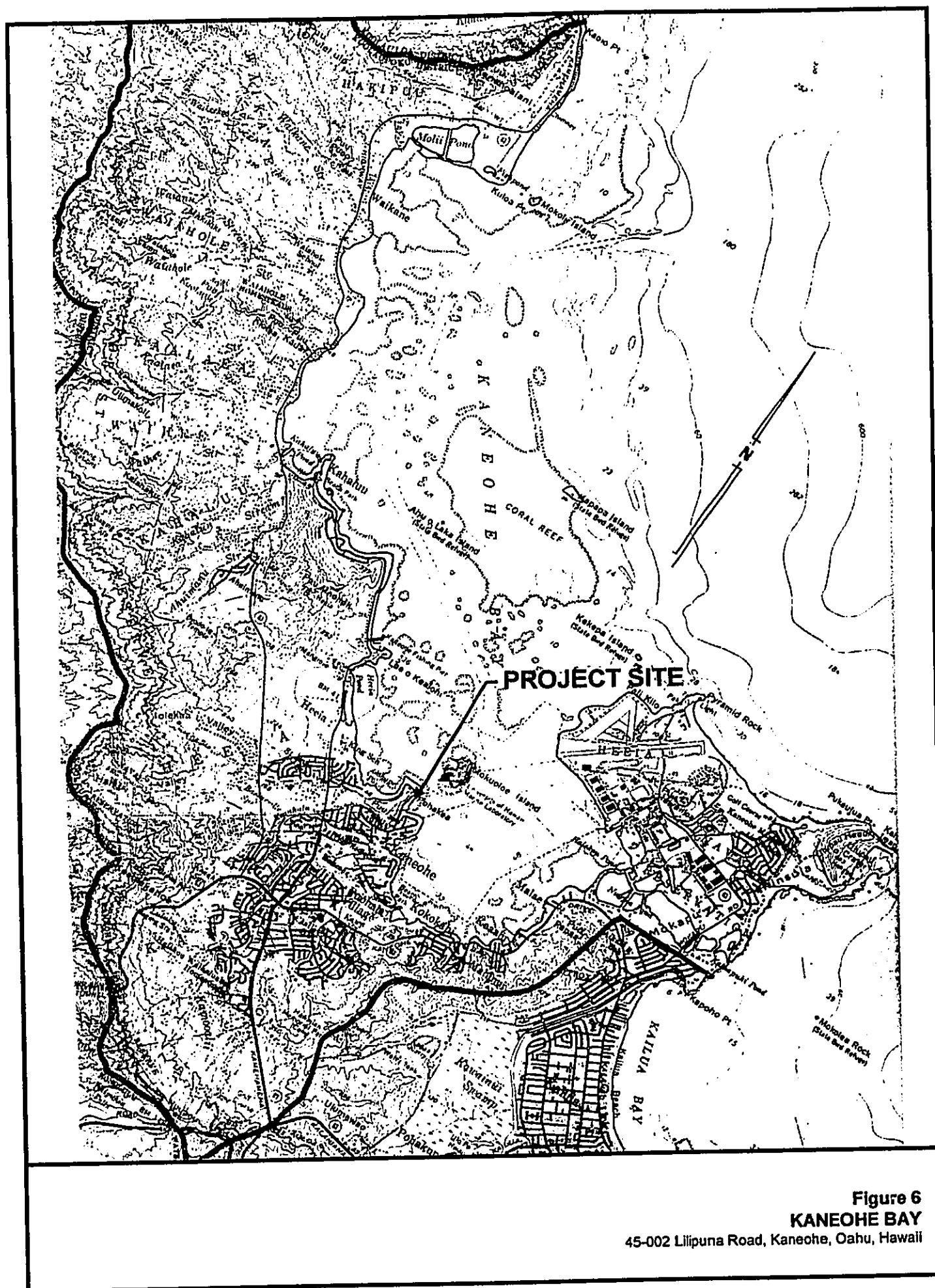
Puu Pohakea's soils are of the Alaeloa series which are located on alluvial fans, terraces, and low uplands. Slopes are dominantly 0 to 40 percent, but can range to as much as 70 percent on Alaeloa soils. Elevation ranges for this soil series is from 50 to 3,250 feet. Drainage is good and permeability is moderately rapid to slow.

The project site is located in the Kaneohe ahupuaa, but near the Heeia ahupuaa boundary as well. The Hawaiian land division, known as an ahupuaa, generally runs from the top of the mountains to the edge of the coral reef in the sea. Numerous historic fishponds once accounted for about 30 percent of Kaneohe Bay's 80 miles of shoreline. Today, only about one-third of the more than 30 ancient fishponds remain while the others have been altered or entirely filled-in.

3.2 Shoreline Characteristics

According to the 1978 *Kaneohe Bay Water Resources Study*, the surface of Kaneohe Bay is approximately eight miles long and 2.6 miles wide. About midway across the mouth of the bay there is an extensive barrier reef that protects the waters of the bay from the ocean. A fringing reef flat borders the shoreline almost continuously except for stream channels and extends between 1,000 to 2,500 feet off of the shoreline. The project site is located along the bay's interior southern section as shown in Figure 6.

There is a fringing reef that fronts along the entire length of the bay's shoreline (including the project site), except where streams enter the bay or man-made alterations have been made. The fringing reef flats are characterized by extensive silt, sand, coral rubble, and seaweeds. Further out from the shoreline at depths of 8 to 45 feet, the bottom is mud and silt. There are numerous patch reefs scattered through the bay between the fringing reef and the barrier reef. The 1978 report states that, "Coral growth is mostly on the outer edge of the reef where water depth is over three feet and where hard surfaces promote the growth of finger coral."



DRAFT ENVIRONMENTAL ASSESSMENT

Construction of a Seawall TMK: 4-5-01: 039, 45-002 Lilipuna Road, Kaneohe, Oahu, Hawaii

The project site, as depicted in Figure 7, is located on the small peninsula Puu Pohakea where the shoreline is characterized by areas of hard bottom with sand pockets ("rs") and complex reef ("rcl") of sand and rubble. Further seaward, the reef flat ("rcl") consists of consolidated limestone rock with patches of sand and rubble.

The applicant's shoreline is steep and is subject to erosion. In addition to erosion hazard, the project site is exposed to northeast tradewind waves. The coast may also be subject to possible waves and high water generated during a hurricane. The project area shoreline is generally protected from direct large wave attack by the fringing reef and the location of Moku o Loe fronting the shoreline.

The photographs in Figures 8, 9, and 10 illustrate the project area's steep shoreline and erosion hazard. The hardbottom characteristics of the bay's nearshore waters is especially evident at low tide. There is an existing vertical seawall and pier associated with the house located near the shore on TMK: 4-5-01: 037, which is two lots over from the project property.

Figure 11 is an aerial photograph taken on December 22, 1969 of the project area and it shows the approximate outline of the applicant's property, which at that time had a pier. The fringe reef along the coastline and UH's large pier are evident in the photo.

3.3 Oceanographic Characteristics

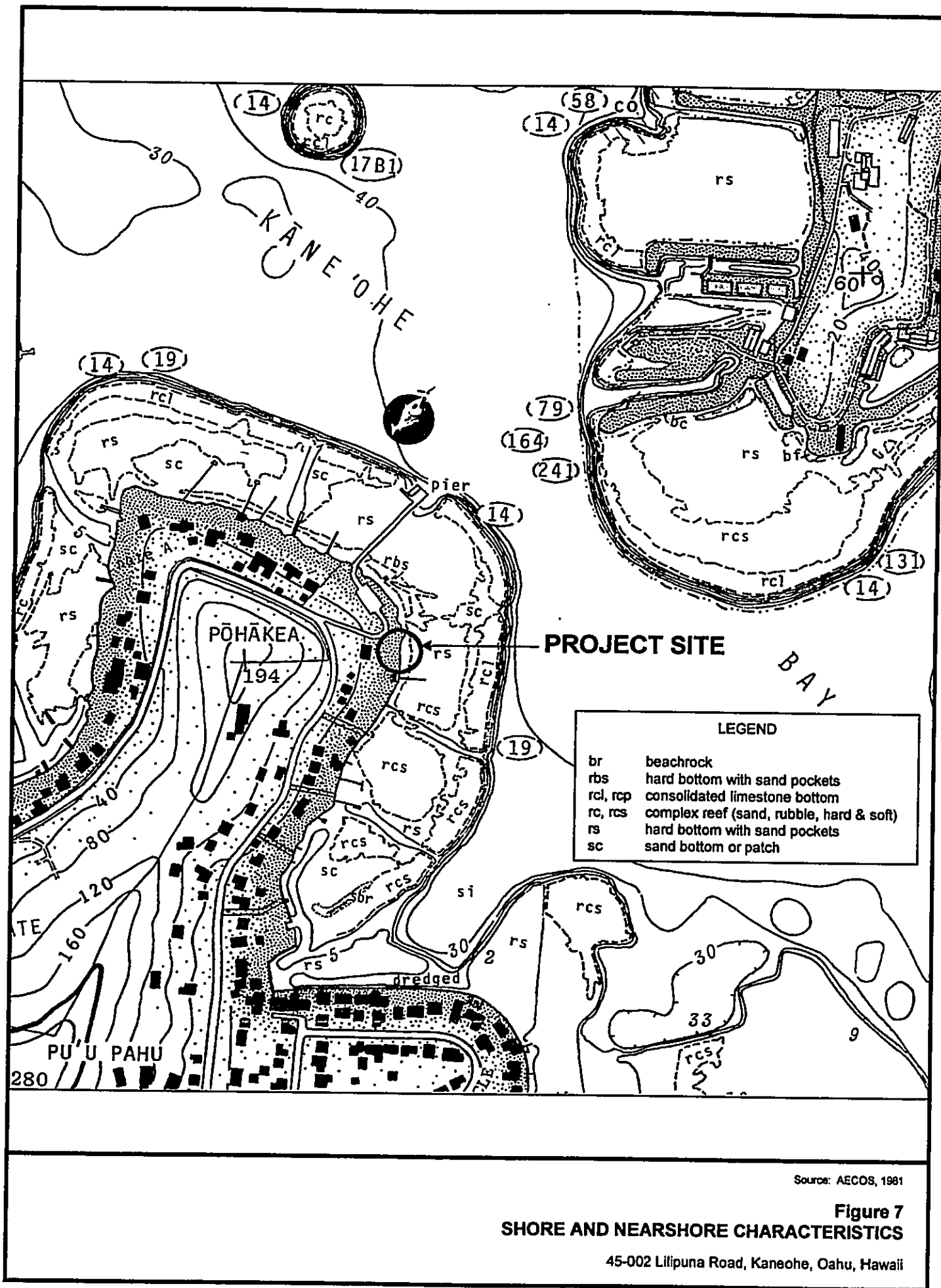
The general ocean and nearshore environment of the Hawaiian Islands is discussed in the study by Gerritsen.

3.3.1 Winds

The winds in Hawaii can be classified into four different groups: tradewinds, kona winds, tropical storms and tropical cyclones. The northeast tradewinds are the prevailing winds. Winds affect the direction and magnitude of surface currents in the ocean, as well as the currents in shallow coastal areas. The project area, located on the northeast or windward side of Oahu, is exposed to the tradewinds.

3.3.2 Waves

The wave patterns in the Hawaiian Islands are generally categorized in five major types: tradewind waves, North Pacific swell, kona storm waves, south swell, and cyclonic or hurricane waves. The project site, while exposed to tradewind waves which occur about 75 percent of the time with an average significant wave height of 4.8 feet, is somewhat buffered from extreme direct wave energy due to its interior location on the bay, the fringe reef fronting the property and the location of Moku o Loe (Coconut Island) between the project site and the open ocean.



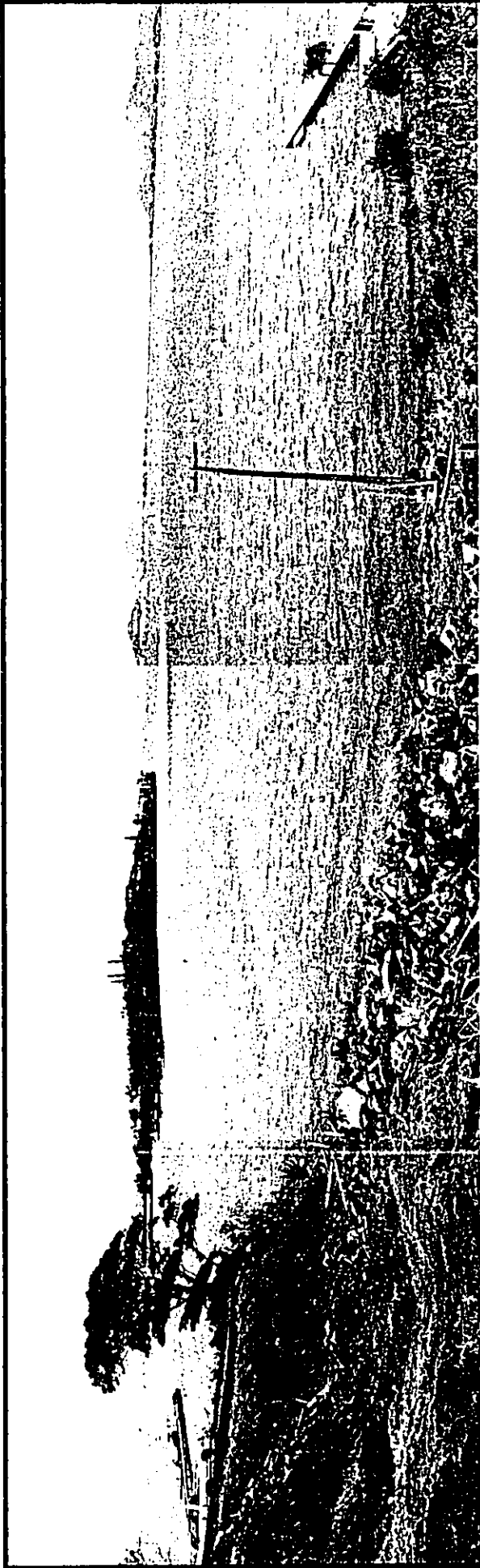


Photo A: Taken from upper mid-level of project property. South property line is just left of the abandoned utility pole. Adjacent lot to the south is vacant. TMK 4-5-01: 037 – second lot over from project - has a visible sea wall and pier. Adjacent lot to the north is the UH driveway/parking area for pier and access to Coconut Island.

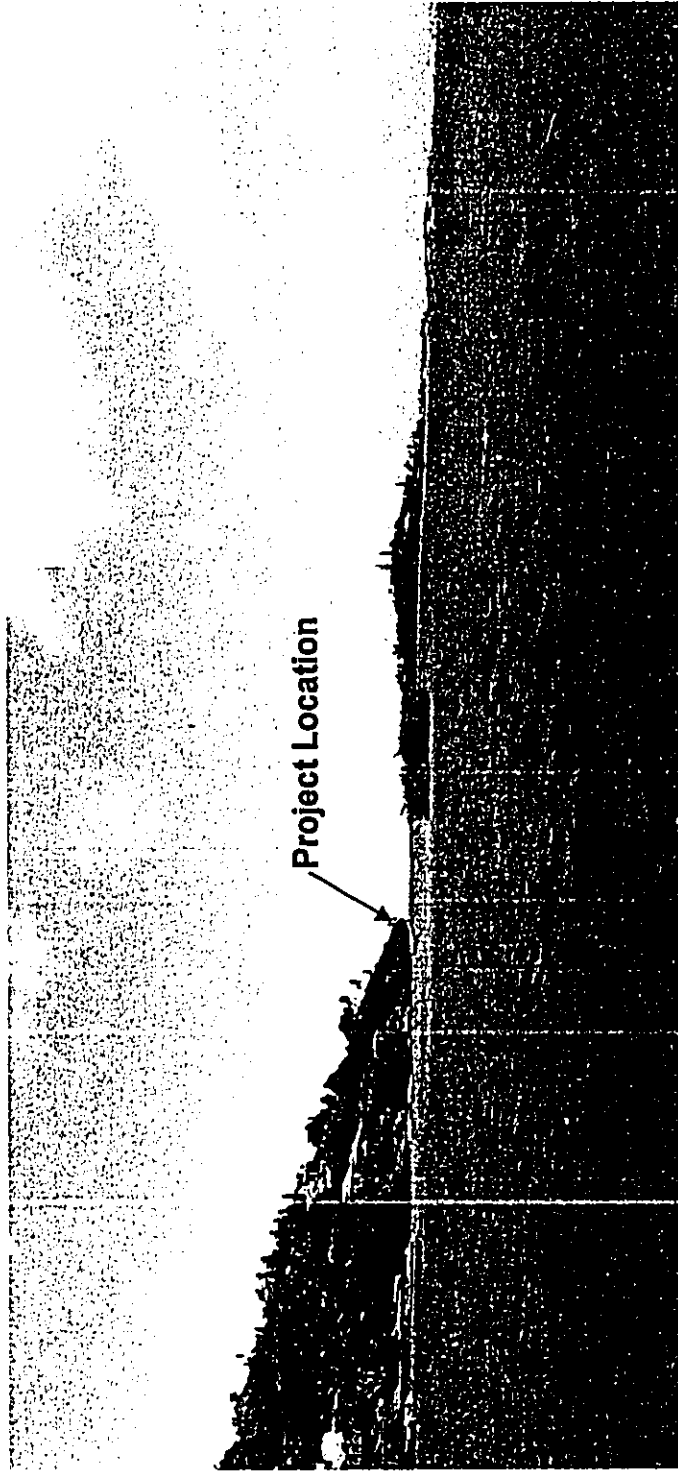


Photo B: Taken from south end of Kaneohe Bay looking north towards the project site and Moku o Loe (Coconut Island). Project property is not visible.

Figure 8 - PHOTOS



Photo C: Taken from project property near rock outcrop looking north.



Photo D: Taken from project property near south property line looking south.

Rock Outcrop

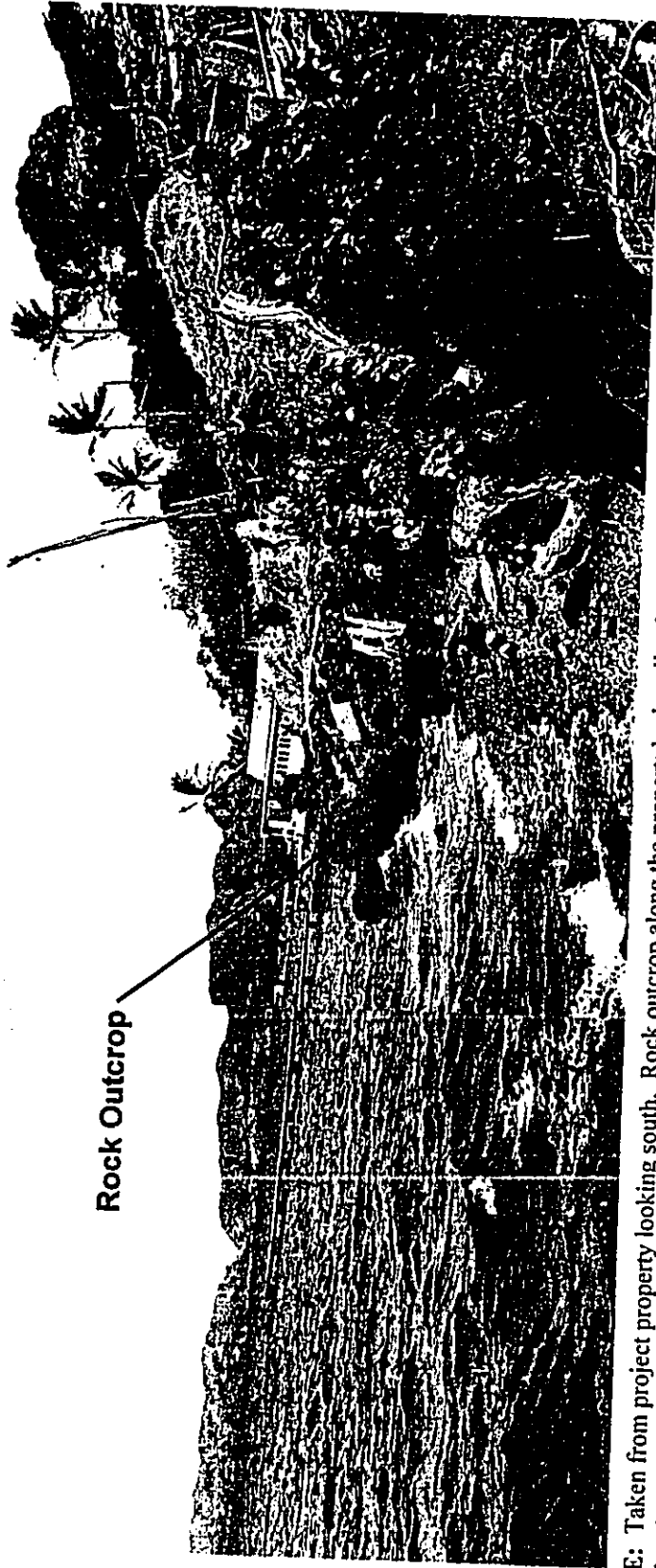
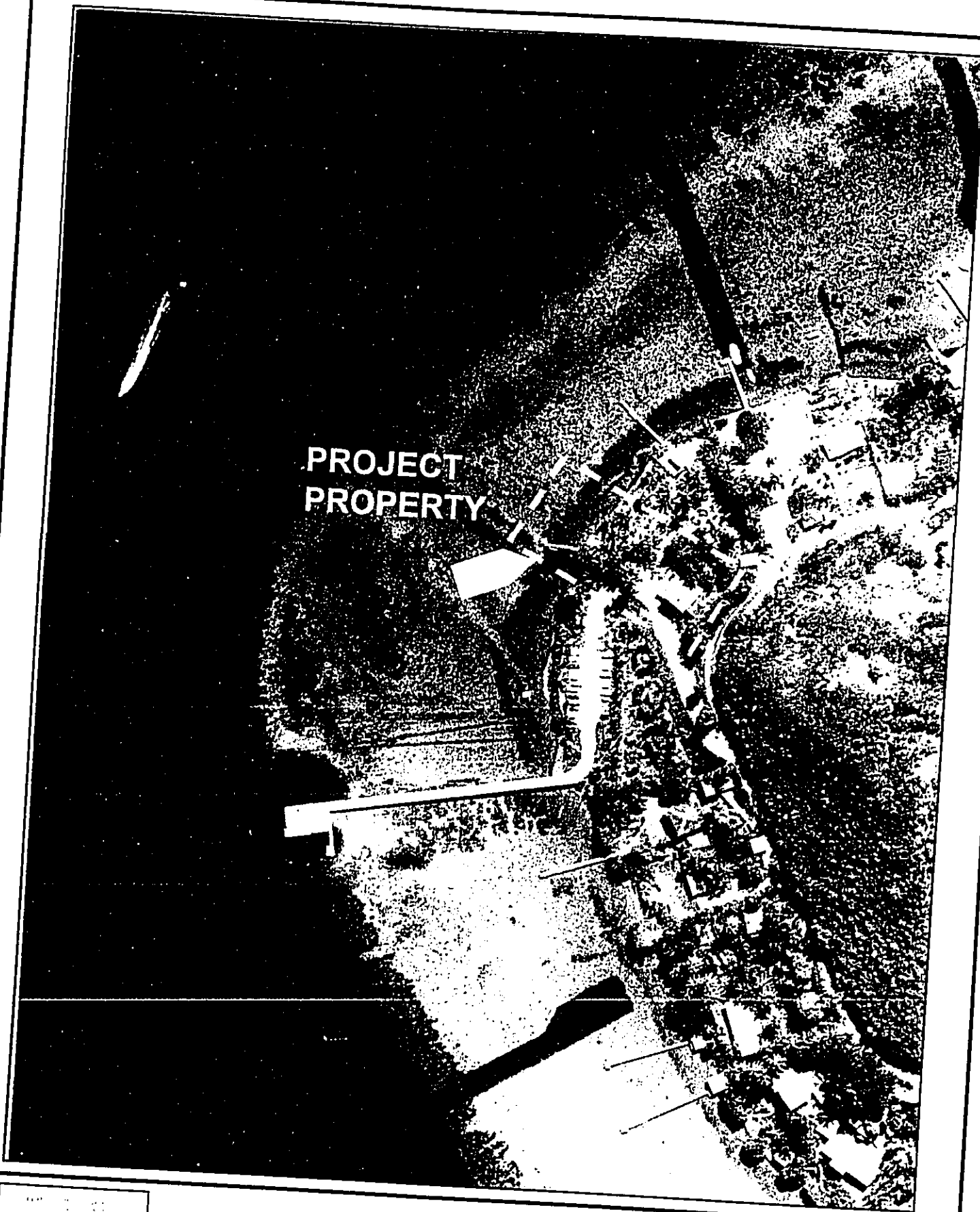


Photo E: Taken from project property looking south. Rock outcrop along the property's shoreline is visible. Leaning abandoned utility pole is near south property line. Seawall and pier on TMK 4-5-01: 037 are visible.

Figure 9 - PHOTOS



623-5-5
12-74-1

Source: RM Towill December 22, 1969

Figure 10
1969 AERIAL PHOTO

45-002 Lilipuna Road, Kaneohe, Oahu, Hawaii

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Construction of a Seawall TMK: 4-5-01: 039, 45-002 Lilipuna Road, Kaneohe, Oahu, Hawaii

3.3.3 Tides

According to Gerristen, the tides in the Hawaiian Archipelago are of the mixed semidiurnal type or two tidal cycles per day. Generally, there is approximately a two foot tidal difference from high water to low water in the vicinity of the project site.

3.3.4 FEMA Flood Insurance Rate Maps

The Federal Emergency Management Agency (FEMA), Flood Insurance Rate Maps (FIRM), label the shoreline in the general project area as Zone X – Area determined to be outside the 500-year floodplain.

3.3.5 Natural Hazards in the Coastal Zone

The barrier reef complex and the broad reef flat of Kaneohe Bay help to dissipate high wave energy so that the tsunami hazard is moderately low. However, stream flooding is ranked high along the low coastal plain of Kaneohe. The general volcanic/seismic hazard is ranked moderately high due to its proximity to the Molokai Seismic Zone. (Atlas, 2000)

3.4 Marine Flora and Fauna

There are no known significant habitat areas for either land or aquatic flora or fauna found directly at the seawall project site. The following information about the marine flora and fauna in the vicinity of the project area and Moku o Loe is taken from the *Hawaii Coral Reef Inventory, Island of Oahu* (AECOS, 1979): "Conspicuous invertebrates on the silted reef flat north of Kealahala Stream are predominately suspension and filter feed organisms. Soft corals, sponges, tunicates, and anemones are particularly evident. Hermatypic corals are present, but sparse as generally under 5% of available substratum. Cover exceeding 5% is found at depths between 6 and 10 feet on the upper reef slope north and west of Pohakea. Coral cover declines below -10 feet. *Portia compressa* is the dominant species. *Abudefduf abdominalis*, *Dascyllus albisella*, *Acanthurus dussumieri*, and *Istiblennius gibbifrons* are the most common species of fish in the area."

3.5 Water Quality

The underwater visibility in the vicinity of the dredged patch reef east of Moku o Loe is reported as 6 to 10 feet, while visibility on the fringing reef off of Pohakea is only 3 to 4 feet. According to the AECOS 1979 study, a coincidental incident in 1965 of extreme low tide and storm runoff killed corals and other reef life to a depth of 2 to 3 feet below the level of the reef margin along the eastern side of Moku o Loe. Consequently, damage to organisms on the fringing reef east of Puu Pohakea were also reported and extended to depths of 1.5 feet to 2 feet. To the west of Pohakea, corals were killed to depth of 3.5 feet below the reef margin.

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Construction of a Seawall TMK: 4-5-01: 039, 45-002 Lilipuna Road, Kaneohe, Oahu, Hawaii

3.6 Coastal Use

Costal use in the vicinity of the project site is related to boating and fishing. A number of residences along the Kaneohe Bay coastline have piers for boating and/or fishing. The hardbottom shoreline is not conducive to swimming and ocean access is limited by the steep shoreline and location of access easement points. The City and County of Honolulu owns a narrow easement four parcels to the south of the project site. The coastline of the project area is primarily developed as private single family house lots. The nearest beach park is the City's Kaneohe Beach Park located approximately 6,000 feet south of the project area.

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Construction of a Seawall TMK: 4-5-01: 039, 45-002 Lilipuna Road, Kaneohe, Oahu, Hawaii

4. SUMMARY OF IMPACTS AND MITIGATIVE MEASURES

4.1 Potential Short-Term and Long-Term Impacts and Mitigative Measures

Construction of the seawall is anticipated to be conducted so that there are no significant adverse effects to water quality. Construction activities will be limited to areas inland of the certified shoreline. It is anticipated that no long-term effects to water quality will occur.

Construction of the seawall will create some minor short-term impacts on noise conditions, vegetation and water quality. Construction activity will occur during allowed daytime periods and may be noticeable to neighboring properties. Some landscaping will be removed by the construction activity. Although it may not be completely unavoidable, mitigative measures will be taken during construction activity to minimize potential upland erosion and runoff from entering the ocean waters.

The seawall will have a minimal long term effect on the shoreline processes at the project location. Due to the project's location along the interior of Kaneohe Bay, the site is primarily impacted by the change in tide and is somewhat buffered from high wave energy. A number of properties along Kaneohe Bay are protected by seawalls. The seawall will protect the property from erosion.

The seawall will have a long-term positive impact in that it will significantly stabilize the applicant's property, reduce the potential for further erosion, and should minimize potential erosion-related runoff into the bay. The concrete rubble masonry (CRM) wall will be designed to use volcanic rock material to mitigate its appearance and create a more natural aesthetic compared to solid concrete walls already found along Kaneohe Bay.

DRAFT ENVIRONMENTAL ASSESSMENT

Construction of a Seawall TMK: 4-5-01: 039, 45-002 Lilipuna Road, Kaneohe, Oahu, Hawaii

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DRAFT ENVIRONMENTAL ASSESSMENT

Construction of a Seawall TMK: 4-5-01: 039, 45-002 Lilipuna Road, Kaneohe, Oahu, Hawaii

5. ALTERNATIVES CONSIDERED

5.1 No Action Alternative

The No Action Alternative could result for the applicant in an irretrievable loss of property by continuing erosion. A portion of the property already lies beyond the certified shoreline. Taking no action may also result in upgrade runoff and may have negative impacts on water quality. The owner proposes to construct a single family house on the property and the shore protection is required to protect the property from further erosion. No action is not a viable alternative.

5.2 Construct a sloping stone revetment instead of a vertical seawall

A sloping stone revetment protects a slope from direct erosion by waves. According to the U.S. Army Corps of Engineers "*Help Yourself*" guide to shore protection, the slope of the revetment should be steeper than one vertical to 1.5 horizontal. The project property's shore area is significantly steeper than this. In the vicinity of the lower portion of the proposed seawall, the property drops steeply from +6 feet MSL to +2 feet MSL over two to 10 feet horizontal. In the middle of the property shoreline there is a large triangular-shaped rock outcrop that drops directly into the water. The project site is not practically suited for a sloping stone revetment, which would require a significant amount of grading and taking of the owner's useable lot area. A revetment would occupy significantly more horizontal space and would have a much larger footprint than a vertical seawall. There are no revetments in the vicinity and such a structure would not be consistent with the vertical seawalls used to protect property along Kaneohe Bay.

5.3 Sandbags

Sand bags are a standard emergency erosion-control measure. While sand bags would provide some effectiveness in temporarily curbing shoreline property loss and erosion, the owner would need to continually maintain the bags and replace them at a continuing cost. The sand bags would not be as aesthetically pleasing as the volcanic rock wall. There would be no real greater environmental benefit to this option as compared to the proposed action to construct a concrete rubble masonry wall. Sandbags are not considered a permanent solution.

5.4 Concrete Rubble Masonry Seawall

Masonry gravity seawalls, a vertical or sloping wall used to protect the land from erosion and wave damage, are a common shore-protection device in Hawaii. A structurally engineered, well-designed and constructed wall is an effective, long lasting and low maintenance shore protection device. The vertical CRM seawall is typically constructed with boulders that one person can place in the wall and grout into place progressively from base to crest. No special equipment is required. Vertical seawalls do reflect wave energy and tend to scour materials at the structure's toe. However, the project site is not subject to high wave energy. Because of its durability and design advantages as compared to a revetment, the vertical seawall is considered the preferred alternative and therefore the best erosion control and shore protection device for this site.

DRAFT ENVIRONMENTAL ASSESSMENT

Construction of a Seawall TMK: 4-5-01: 039, 45-002 Lilipuna Road, Kaneohe, Oahu, Hawaii

6. FINDINGS AND REASONS SUPPORTING THE ANTICIPATED DETERMINATION

Chapter 200 of Title 11, Administrative Rules of the State Department of Health establishes criteria for determining whether an action may have a significant impact on the environment (11-220-12). The Rules establish "significance criteria" for making the determination. The relationship of the proposed project to the thirteen criteria is provided below.

6.1 Significance Criteria

- 1. Involves an irrevocable commitment to loss or destruction of any natural or cultural resource;**

Natural or cultural resources will not be lost due to the proposed project.

- 2. Curtails the range of beneficial uses of the environment;**

The construction of the proposed project will not curtail the range of beneficial uses of the environment, nor will it adversely affect the environment of the surrounding area.

- 3. Conflicts with the state's long-term environmental policies or goals and guidelines as expressed in chapter 344, HRS, and any revisions thereof and amendments thereto, court decisions, or executive orders;**

The proposed configuration of the wall does not conflict with long-term environmental policies or goals or guidelines of the State of Hawaii. The proposed seawall will not significantly affect natural resources, while preventing erosion of the relatively steeply sloped project site.

- 4. Substantially affects the economic welfare, social welfare, and cultural practices of the community or State;**

The economic and social welfare, and cultural practices of the community or State will not be affected by the proposed seawall.

- 5. Substantially affects public health;**

There are no public health concerns relating to the proposed seawall.

- 6. Involves substantial secondary impacts, such as population changes or effects on public facilities;**

There are no anticipated secondary impacts.

DRAFT ENVIRONMENTAL ASSESSMENT

Construction of a Seawall TMK: 4-5-01: 039, 45-002 Lilipuna Road, Kaneohe, Oahu, Hawaii

7. Involves a substantial degradation of environmental quality;

Construction of the proposed seawall will prevent possible negative environmental impacts. The seawall should prevent erosion of the relatively steeply sloped project area. Possible negative impacts to the ocean will be avoided by construction of the seawall.

8. Is individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger actions;

The proposed seawall is located on a single-family residential lot in a neighborhood on Kaneohe Bay that is already developed with other single family houses located along the waterfront. The applicant is in the process of designing a single family residence to be built on the property to replace the original house that was built on the site in 1937. The seawall project will not result in significant short or long term environmental impacts.

9. Substantially affects a rare, threatened, or endangered species, or its habitat;

The project site was previously disturbed and developed when a single family residence was constructed on the site in 1937. The residence was demolished in 2000 (Building Permit No. 509462, June 2000). There are no known rare, threatened or endangered species or its habitat at or near the proposed seawall.

10. Detrimentially affects air or water quality or ambient noise levels;

There will be no significant long term detrimental affects on air or water quality or ambient noise levels due to the construction of the proposed seawall. Some short term impacts will result from the proposed construction activity including increased noise levels, dust and exhaust from machinery involved. State Department of Health regulations must be adhered to during construction. The proposed seawall will be primarily built by hand and given the short construction time period, there should be minimal potential impacts from construction.

11. Affects or is likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters;

The proposed project site is located in Flood Hazard Zone X – areas determined to be outside of the 500 year flood. The seawall will likely have beneficial impacts on the coastal water quality by preventing erosion of the residential lot and shoreline.

12. Substantially affects scenic vistas and view planes identified in county or state plans or studies; or

The project site is located near a small peninsula-shaped curve of land at a very inland portion of Kaneohe Bay. The lot slopes down and away from the street so that the

DRAFT ENVIRONMENTAL ASSESSMENT

Construction of a Seawall TMK: 4-5-01: 039, 45-002 Lilipuna Road, Kaneohe, Oahu, Hawaii

proposed seawall should be not generally viewable expect from the shoreline of adjacent lots or from nearshore water. This portion of the Kaneohe Bay coastline is significantly developed with similar single family house lots that slope down from Lilipuna Road towards Kaneohe Bay. The water's edge is typically not visible from the street.

13. Requires substantial energy consumption.

The proposed seawall will not require substantial energy consumption.

6.2 Findings and Reasons Supporting Anticipated Determination

The findings of this Environmental Assessment indicate that the proposed seawall project will not have a significant environmental impact. Potential short term construction impacts can be mitigated through construction management practices and by complying with all appropriate governmental requirements.

A Finding of No Significant Impact (FONSI) is recommended to be issued for this proposed action.

DRAFT ENVIRONMENTAL ASSESSMENT

Construction of a Seawall TMK: 4-5-01: 039, 45-002 Lilipuna Road, Kaneohe, Oahu, Hawaii

7. AGENCY AND PUBLIC CONSULTATION AND REVIEW

The following agencies were consulted during the preparation of the Draft Environmental Assessment (DEA):

- City and County of Honolulu, Department of Planning and Permitting
- State Office of Environmental Quality Control
- State of Hawaii, Department of Land and Natural Resources

The project will require the following permits:

- Shoreline Setback Variance pursuant to Chapter 23, Revised Ordinances of Honolulu
- Building permit from the City and County of Honolulu

DRAFT ENVIRONMENTAL ASSESSMENT

Construction of a Seawall TMK: 4-5-01: 039, 45-002 Lilipuna Road, Kaneohe, Oahu, Hawaii

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DRAFT ENVIRONMENTAL ASSESSMENT

Construction of a Seawall TMK: 4-5-01: 039, 45-002 Lilipuna Road, Kaneohe, Oahu, Hawaii

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